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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,643	03/03/2005	Tetsuo Saeiki	63005 (70551)	5814
21874	7590	10/11/2006	EXAMINER	
EDWARDS & ANGELL, LLP			ALLI, IYABO	
P.O. BOX 55874			ART UNIT	
BOSTON, MA 02205			PAPER NUMBER	
			2112	

DATE MAILED: 10/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/526,643

Applicant(s)

SAEKI, TETSUO

Examiner

IYABO S. ALLI

Art Unit

2112

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03/03/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03/03/05 is/are: a) ☒ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 3/3/2005
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "5" and "5" have both been used to designate the Evanescent wave and the Photodetector shown in Figs. 1 & 5. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims **1-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Naya** (5,875,032) in view of **Ovshinsky et. al.** (US 2003/0048744 A1).

Considering claim **1**, **Naya** clearly discloses a light illuminating means **14**, and a thin metal film **12**. (Column 2, lines 3-6 and Fig. 1)

Naya fails to disclose a transparent substrate having a ridge and a metal layer.

3. However, **Ovshinsky** teaches a transparent substrate **100** (Columns 64 & 75, lines 3-4) having a ridge and a metal layer **6**. (Columns 64 & 75, lines 3-4 and Fig. 3, 4 & 8a)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify **Naya's** Surface plasmons sensor having an improved optical system with **Ovshinsky** who teaches a transparent substrate, a metal layer and an evanescent wave from the light illuminating means.

Doing so would provide a better crystallizing layer, which aids in the improved performance of the phase change.

Considering claim **2**, **Naya** teaches a device **15** that comprises of a pair of lenses **22** and **24** that converge the diverging light beam **13** emitted from the light source **14**, in a plane normal to the longitudinal axis of the prism **10**. (Columns 3, lines 1-6 and Fig. 1)

Naya fails to disclose a transparent substrate having a ridge and a metal layer and light being polarized once in a plane.

Art Unit: 2112

4. However, **Ovshinsky** teaches a transparent substrate **1** (Fig. 4) formed in a striped manner and light being polarized.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify **Naya's** Surface plasmons sensor having an improved optical system with a transparent substrate formed in a striped manner.

Doing so would provide a better reflective layer of light.

Considering claim **3**, **Naya** discloses that the light that is emitted from the illuminating light means **14** is convergent light. (Column 4, line 1)

Considering claim **4**, **Naya** discloses that the light emitted from the light illuminating means **14** and directed to the ridge reaching the thin metal film **12** is in an area smaller than the width of the ridge. (Fig. 1)

Considering claim **5**, **Naya** discloses a thin film **12** formed of gold or silver. (Column 2, line 3)

Naya fails to disclose a metal layer being formed of a conductor.

5. However **Ovshinsky**, teaches a metal layer being formed of a conductor. (Fig. 3 & 4)

Given the teachings of **Ovshinsky**, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify **Naya** who teaches the use of a gold or silver metal film with a metal film formed of a conductor.

Doing so would provide a better conductive layer of metal film.

Art Unit: 2112

Considering claim **6**, **Naya** discloses a photodetector **16 & 17**, for receiving light that is reflected by the thin metal film **12** and metal layer. (Column 2, lines 10-11 and Fig. 1)

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

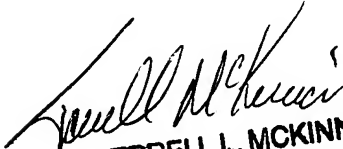
Batchelder et. al.(4,844,613) discloses a transparent substrate.

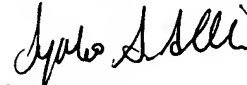
Any inquiry concerning this communication or earlier communications from the examiner should be directed to IYABO S. ALLI whose telephone number is 571-270-1331. The examiner can normally be reached on M-Th 7:30am- 5:00pm; 1st F-OFF & 2nd F- 7:30-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrell McKinnon can be reached on 571-272-4797. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2112

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


TERRELL L. MCKINNON
SUPERVISORY PATENT EXAMINER


IYABO S. ALLI
Examiner
Art Unit 2112
September 29, 2006